**WHAT IS CLAIMED IS:**

1. A micromachined single-crystalline silicon micro-gyroscope, comprising of oxide/polysilicon/metal triple layer for electrical isolation, in which polysilicon layer is partially etched to accomplish the electrical isolation in the microstructure of the micro-gyroscope.

2. The micro-gyroscope of claim 1, wherein the deposition depths of the oxide layer and the polisilicon layer are adjusted to determine the width of the spring and spring constant, thereby adjusting the resonant frequency of the micro-gyroscope.

3. The micro-gyroscope of claim 1, wherein the micro-gyroscope is the decoupled type, in which a driving electrode and a sensing electrode are electrically isolated by the said oxide/polisilicon/metal triple layer.

4. The micro-gyroscope of claim 3, wherein the driving spring and the sensing spring are aligned with each other at a $90^{o}$ angle.

5. The micro-gyroscope of claim 4, wherein the driving springs and sensing springs have a node with a hole in the middle.

6. The micro-gyroscope of claim 5, wherein the opening width of the each hole is larger than the width of the spring.

7. The micro-gyroscope of claim 3, wherein the vertical depth of both of the driving electrode and the sensing electrode is larger than 10 □.

8. The micro-gyroscope of claim 7, which is fabricated by SBM process in which the depth of a sacrificial layer is larger than 10 □.

9. The micro-gyroscope of claim 3, wherein a DC biased voltage as tuning voltage is applied to either the driving spring or the sensing spring to control the stiffness of the spring.

10. The micro-gyroscope of claim 9, the tuning voltage is applied to the sensing spring.

11. The micro-gyroscope of claim 10, wherein the moving microstructure of the micro-gyroscope and silicon substrate is grounded and sensing spring is connected to a negative input of two charge amplifiers.

12. The micro-gyroscope of claim 11, wherein the tuning voltage is applied to the positive input terminals of the charge amplifiers, and angular rate is obtained by demodulating the output signal of a high pass filter to remove the tuning voltage.